We claim:

1. A heart valve assembly comprising:

a base member generally defining a plane and comprising a multi-lobular annular shape within the plane;

an annular body comprising a multi-lobular shape complementary to the multi-lobular shape of the base member; and

cooperating connectors on the base member and the annular body for connecting the annular body to the base member.

2. The assembly of claim 1, wherein the cooperating connectors comprise first and second connectors on the base member and the annular body, respectively.

3. The assembly of claim 2, wherein the first connector extends substantially continuously along a perimeter of the base member.

4. The assembly of claim 2, wherein the first connector comprises a plurality of connector elements spaced apart along a perimeter of the base member.

5. The assembly of claim 2, wherein one of the first and second connectors comprises a protrusion, and wherein the other of the first and second connectors comprises an aperture for receiving the protrusion therein.

6. The assembly of claim 5, wherein the protrusion is resilient.

7. The assembly of claim 5, wherein the aperture comprises at least one of a port, pocket, cavity, and hole.

8. The assembly of claim 1, wherein the base member comprises a rigid base and a flexible cuff for attaching the base to a biological annulus.

9. The assembly of claim 1, wherein the annular body comprises a connecting member for connecting a valve member to the base member.

10. The assembly of claim 1, wherein the annular body comprises a valve member.

11. A heart valve assembly, comprising:

a base member generally defining a plane and a longitudinal axis substantially orthogonal to the plane, the base member comprising a multi-lobular annular shape within the plane;

an annular body comprising a multi-lobular shape complementary to the multi-lobular shape of the base member, and

guides on at least one of the base member and the annular body for aligning the multi-lobular shapes with one another about the longitudinal axis.

12. The assembly of claim 11, further comprising cooperating connectors on the base member and the annular body for attaching the annular body to the base member.

13. The assembly of claim 11, wherein the base member comprises a rigid base and a flexible cuff for attaching the base to a biological annulus.

14. The assembly of claim 11, wherein the annular body comprises a connecting member for connecting a valve member to the base member.

15. The assembly of claim 11, wherein the annular body comprises a valve member.

16. The assembly of claim 11, wherein the guides comprise visual markers on the annular body and the base member that may aligned within one another when the multi-lobular shape of the annular body is aligned with the multi-lobular shape of the base member.

17. The assembly of claim 11, wherein the guides comprise tactile markers on the annular body and the base member that may interact with one another when the multi-lobular shape of the annular body is aligned with the multi-lobular shape of the base member.

18. The assembly of claim 11, wherein the guides comprise one or more tethers extending from the base member and through the annular body such that the annular body is slidable along the tethers to align the annular body with the base member as the annular body is directed towards the base member.

19. The assembly of claim 18, wherein the one or more tethers comprise ratchets spaced apart along a portion of the one or more tethers, thereby providing at least one of a tactile indication and an audible indication as the annular body is directed towards the base member.

20. The assembly of claim 19, wherein each of the tethers extends through a guide channel in the annular body, the ratchet elements engaging the guide channel to allow the annular body to be directed towards the base element but preventing the annular body from being directed away from the base member.

21. The assembly of claim 18, wherein the one or more tethers are attached to the base member.

22. The assembly of claim 21, wherein the one or more tethers are detachable from the base member.

23. A method for assembling a heart valve comprising a base member comprising a multi-lobular annular shape and a second device comprising a multi-lobular shape complementary to the multi-lobular shape of the base member, the method comprising:

moving the second device adjacent to the base member, wherein the multi-lobular shape of the second device aligns with the multi-lobular shape of the base member; and

attaching the second device to the base member.

24. The method of claim 23, wherein moving the second device adjacent to the base member comprises sliding the second device along one or more guide members towards the base member.

25. The method of claim 23, wherein attaching the second device to the base member comprises engaging cooperating connectors on the second device and the base member.

26. The method of claim 25, wherein the cooperating connectors comprise protrusions on at least one of the second device and the base member that are received in corresponding apertures in the other of the second device and the base member.

27. The method of claim 23, wherein the second device comprises a valve member.

28. The method of claim 23, wherein the multi-lobular shape of the second device is aligned with the multi-lobular shape of the base member using guides on the second device and the base member.

29. The method of claim 28, wherein the guides comprise at least one of visual markers and tactile markers.

30. The method of claim 28, wherein the guides comprise one or more tethers extending from the base member, the annular body sliding along the one or more tethers as the annular body is moved adjacent the base member.

31. A method for implanting a heart valve within a biological annulus within a heart of a patient, comprising:

attaching a base member to the biological annulus, the base member having a multi-lobular annular shape corresponding generally to a cross-section of the annulus;

guiding a valve member comprising a multi-lobular shape complementary to the base member adjacent the annulus;

orienting the valve member such that the multi-lobular shape of the valve member is aligned with the multi-lobular shape of the base member; and

attaching the valve member to the base member.

32. The method of claim 31, wherein the base member comprises a flexible cuff extending from an anchoring ring, and wherein the flexible cuff is attached to the annulus to attach the base member to the annulus.

33. The method of claim 31, wherein the valve member is oriented using at least one or visual markers and tactile markers on the valve member and the base member.

34. The method of claim 31, wherein the valve member is guided to the base member along one or more tethers extending from the base member.

35. The method of claim 34, wherein the valve member comprises one or more guide channels through which the one or more tethers pass, the tethers and guide channels being arranged relative to one another to orient the valve member as the valve member is guided to the base member.